

EXHIBIT R

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25 UNITED STATES DISTRICT COURT

26 NORTHERN DISTRICT OF CALIFORNIA

27 SAN FRANCISCO DIVISION

28 GOOGLE LLC,

Plaintiff and Counter-defendant,

v.

SONOS, INC.,

Defendant and Counter-claimant.

Case No. 3:20-cv-06754-WHA
Related to Case No. 3:21-cv-07559-WHA

**REPLY DECLARATION OF DR. KEVIN
C. ALMEROOTH IN SUPPORT OF
SONOS, INC.'S MOTION FOR
SUMMARY JUDGMENT OF
INFRINGEMENT OF '885 PATENT
CLAIM 1**

Date: June 9, 2022

Time: 8:00 a.m.

Place: Courtroom 12, 19th Floor

Judge: Hon. William Alsup

Complaint Filed: September 28, 2020

FILED UNDER SEAL

1 I, Kevin C. Almeroth, hereby declare as follows:

2 **I. SCOPE OF ASSIGNMENT AND INFORMATION CONSIDERED**

3 1. I submitted an opening declaration in support of Sonos's motion for summary
4 judgment of infringement on April 14, 2022. I have now been asked to evaluate and respond to
5 certain issues raised in Google's opposition to Sonos's motion for summary judgment and the
6 Declaration of Dr. Dan Schonfeld in support thereof, which were filed on May 5, 2022.

7 2. In addition to the materials that I previously reviewed, which are identified in my
8 opening declaration, I have now reviewed Google's opposition and the exhibits thereto, as well as
9 Dr. Schonfeld's Declaration.

10 3. I reserve the right to further expound on my opinions herein in subsequent
11 declarations, reports, and/or at trial.

12 **II. '885 PATENT CLAIM 1 IS INFRINGED**

13 4. In its opposition, Google offers three theories as to why the Accused Google
14 Players do not infringe '885 Patent claim 1. For the reasons already explained in my opening
15 declaration as well as the additional explanation provided below, I disagree with each of Google's
16 non-infringement theories.

17 **A. Google's Speaker Groups are "Zone Scenes"**

18 5. In its opposition, Google does not dispute that (i) the Accused Google Players are
19 programmed with the capability to be included in multiple different "speaker groups" (sometimes
20 referred to as "static groups"), (ii) each speaker group comprises a previously-saved, predefined
21 grouping of Accused Google Players that are to be configured for synchronous playback of audio
22 when the speaker group is invoked, and (iii) Google's technology provides the capability to create
23 and save speaker groups having thematic names, such as "Morning," "Afternoon," or "Garden."

24 6. Google also does not dispute that its speaker groups are "zone scenes" under
25 Sonos's proposed construction, which is "a previously-saved grouping of zone players that are to
26 be configured for synchronous playback of media when the zone scene is invoked."

27 7. However, Google disputes that its speaker groups are the claimed "zone scenes"
28 under Google's proposed construction, which is "a previously saved grouping of zone players

1 according to a common theme,” based on the theory that (i) Google’s construction requires a “zone
2 scene” to include some thematic “attribute” beyond a thematic name and (ii) Google’s speaker
3 groups do not include any such “attribute.” *See* D.I. 249, 4-7. I disagree. In my opinion, this non-
4 infringement theory is based on an erroneous interpretation of the “according to the common
5 theme” aspect of Google’s construction that is contrary to how a POSITA would understand that
6 language, as confirmed by Google’s own prior characterization of its construction.

7 8. In my opinion, a POSITA would understand the plain language of Google’s
8 construction of “zone scene” to encompass any “grouping of zone players” that has been
9 “previously saved” in a way that reflects a “common theme” of that grouping. Under this plain
10 language, a POSITA would understand that a “grouping of zone players” that has been “previously
11 saved” with a **thematic name** falls within the scope of Google’s “zone scene” construction because
12 such a thematic name reflects a “common theme” of the grouping. SONOS-SVG2-00067584-88.

13 9. This interpretation of the “common theme” requirement of Google’s proposed
14 construction is consistent with the disclosure of ’885 Patent, which draws a direct connection
15 between a **name** of a “zone scene” and a “common theme” of the “zone scene.” For instance, the
16 ’885 Patent refers to an example “zone scene” having a “morning” theme at three different points
17 in the specification, and each time, the ’885 Patent states that the example “zone scene” is “**named**
18 **after ‘Morning,’**” which reflects that the “zone scene” is for listening to synchronous audio in the
19 morning. *See* ’885 Patent at 3:53-56, 8:52-61, 10:39-41. This disclosure confirms that a zone
20 scene’s name is one way reflect a “common theme” of the “zone scene,” and that a “zone scene”
21 having a thematic name such as “Morning” is “according to a common theme.”

22 10. Moreover, this interpretation of “common theme” is consistent with how Google
23 itself characterized its proposed construction in the related Texas action. For instance, during the
24 Texas claim construction briefing, Google acknowledged that “Morning” was an example of
25 “thematic information” that would qualify as a “common theme,” while also citing to the portion
26 of the ’885 Patent where it describes an example “zone scene” that is “**named after ‘Morning.’**”
27 *See* N.D. Cal. Case No. 3:21-cv-7559, D.I. 64 at 13. Then, during the Texas claim construction
28 hearing, Google’s counsel described a “zone scene” as follows:

1 I'll merely add, Your Honor, that if you look at this provisional, it says, for example,
2 morning scene. That's exactly what's in the specification that I showed you, what I
3 was reading: For example, a "**Morning**" **scene** includes three zone players, each in
4 a bedroom, den and dining room. This is showing the exact same thing, and **it's**
5 **giving it [a] theme. It's called "morning scene."**

6
7
8 See N.D. Cal. Case No. 3:21-cv-7559, D.I. 106 at 29; *see also id.* at 30 ("[T]he theme would be,
9 for example, grouping three areas as . . . a **morning theme** because you get up in the morning and
10 these are the three areas you want to have music in."). This statement further confirms that
11 assigning a grouping of zone players a **thematic name**, such as "Morning," is one way to "**give[]**
12 **it [a] theme**" even under Google's construction *Id.*

13 11. I further note that, based on my review of Google's claim construction briefing and
14 the hearing transcript from the Texas action, Google does not appear to have previously argued
15 that a "common theme" requires some sort of "'theme' attribute" that differs from a thematic name.
16 Rather, this appears to be a new argument that Google is making for the first time in the present
17 action. In any event, I disagree that a POSITA would interpret Google's proposed construction of
18 "zone scene" to require anything beyond a thematic name – let alone that it would require the
19 additional "attributes" now identified by Google. There are several reasons for this.

20 12. *First*, there is nothing in the language of claim 1 that suggests or supports
21 interpreting "common theme" to require anything beyond a thematic name – which is a clear
22 example of a "'theme' attribute" – let alone to require the other "attributes" identified by Google.

23 13. *Second*, while Google is now arguing that the "common theme" of its proposed
24 construction requires "attributes" beyond a thematic name, such as volume settings, mute settings,
25 specific music to be played, play mode, and playback equalization, Google has not explained how
26 any of these "attributes" reflects a "common theme" of the "zone scene" or why these specific
27 attributes would meet the "common theme" requirement but a name attribute – which is expressly
28 disclosed as an attribute that reflects theme information – would not.

29 14. *Third*, the intrinsic evidence makes clear that the "attributes" identified by Google
30 are not a required aspect of a "zone scene," but rather are **optional** settings that are only included
31 in some embodiments of a "zone scene." This evidence includes:

32 • The '885 Patent's specification, which describes other "attributes" identified by Google

1 in the context of an alternative embodiment where such attributes “*could*” be applied
2 after a “zone scene” is invoked, but makes clear that this is an optional extension of the
3 disclosed “zone scene” technology and describes other embodiments of “zone scenes”
4 where these other “attributes” are not included as part of a “zone scene” (*see* ’885
5 Patent at 8:53-61, 9:16-30, 10:4-19; *see also* U.S. Provisional No. 60/825,407 (the
6 “407 Provisional”) at 13); and

7

- 8 • The provisional disclosure for the ’885 Patent, which introduces the concept of a “zone
9 scene” without any reference to any of the “attributes” identified by Google (*see* ’407
10 Provisional at App’x A, 1-4);
- 11 • The dependent claims of other Sonos patents within the ’885 Patent’s family, which
12 recite the identified “attributes” as optional “further” limitations of a “zone scene” and
13 thereby confirm that these “attributes” are not a required aspect of a “zone scene” (*see*,
14 *e.g.*, U.S. Pat. No. 8,843,228 at claims 7-8, U.S. Pat. No. 9,344,206 at claims 8-9).

15 Thus, it would be improper to import these optional “attributes” into the claimed “zone scenes.”

16 15. *Fourth*, I disagree with Google’s new argument that a “zone scene” must include
17 these other attributes because they are what “differentiates ‘zone scenes’ from the admittedly
18 conventional and well-known speaker groups.” D.I. 249 at 5. I have seen nothing in the intrinsic
19 evidence suggesting that either the inventors or the patent examiner of the ’885 Patent believed
20 that a “zone scene” was required to include the “attributes” identified by Google in order to
21 differentiate from prior art. To the contrary, the intrinsic evidence shows that the claimed “zone
22 scene” differentiates from “conventional and well-known speaker groups” based on the fact that it
23 comprises a previously-saved, “predefined grouping” of “zone players” that are “to be configured
24 for synchronous playback of media” at some future time “when the [zone scene] is invoked,” which
25 provides a new way to group “zone players” in a more seamless manner by (i) allowing a “zone
26 player” to be added to multiple different predefined groups that initially exist in an inactivate state
27 and then (ii) making those different predefined groups available so that a user can later choose to
28 any such group for synchronous playback, at which point the “zone players” in the predefined
group become “configured to coordinate” with one another “over a data network” in order to
“output media in synchrony.” Additionally, the claimed “zone players” are a new type of audio
players equipped with data networking and digital processing capabilities that make them
structurally and functionally very different from “conventional” audio players, which lacked these
advanced capabilities. At a minimum, the claimed invention is differentiated from “conventional

1 and well-known speaker groups" based on these features, which have nothing to do with whether
2 the claimed "zone scenes" include the other optional "attributes" identified by Google.¹

3 16. For these reasons, a POSITA would not consider the "attributes" identified by
4 Google to be a requirement of a "zone scene" under Google's proposed construction.² Instead, a
5 POSITA would consider Google's proposed construction of "zone scene" to by any Google
6 speaker group that has a ***thematic name***, which is consistent with how Google itself characterized
7 that construction in the Texas action. And here, there is no dispute that each Accused Google
8 Player is programmed with the functional capability to be included in speaker groups that have
9 thematic names, such as "Morning," "Afternoon," Evening," "Garden," and so on.

10 17. For these reasons, it remains my opinion that the speaker group functionality of the
11 Accused Google Players satisfies the "zone scene" limitations of '885 Patent.

12 **B. Google's Join Group Message is an "Indication" that an Accused Google**
Player "Has Been Added" to a Speaker Group

13 18. The undisputed evidence shows that (i) the process for creating a new speaker group
14 involves a user selecting the Accused Google Players to add to the speaker group, naming the
15 speaker group, and pressing "Save," which then causes the user's controller device to transmit a
16 join_group message to each Accused Google Player that was added to the speaker group, (ii) each
17 Accused Google Player is programmed with the capability to receive join_group messages for any
18 number of different speaker groups that may be created by a user, and (iii) each such join_group
19 message that is received by an Accused Google Player includes identifying information for the
20 new speaker group that has been created by the user. *See* Opening Declaration at ¶¶ 121-28.

21 19. Nevertheless, Google contends that when an Accused Google Player receives a
22 join_group message for a new group created by a user, this does not amount to the claimed
23

24 ¹ For similar reasons, I disagree with Google's contention that a thematic name cannot reflect a
25 "common theme" because "simply naming a group" is not novel over prior art. D.I. 249 at 6-7.
26 This ignores the other claim features that differentiate over prior art and attempts to construe the
27 claims with reference to prior art rather than the intrinsic evidence, which I understand to be
improper. I will further address Google's arguments regarding prior art at the appropriate time.

28 ² To the extent that the Court decides to formulate its own construction of "zone scene" that
differs from those proposed by Sonos and Google, then for similar reasons, I do not believe these
other optional "attributes" should be included as a requirement of that construction.

1 functionality of receiving an “indication” that the Accused Google Player “has been added” to the
2 new speaker group because the join_group message is a “command to join a group.” I disagree.
3 In my opinion, this non-infringement theory is based on an erroneous interpretation of the
4 “indication” limitations that is contrary to how a POSITA would understand that language and
5 would exclude the ’885 Patent’s preferred embodiment, which I understand to be improper.

6 20. The particular claim language at issue is:

7 receiving, from a network device over a data network, a [given] indication that the first
8 zone player has been added to a [given] zone scene . . . ;

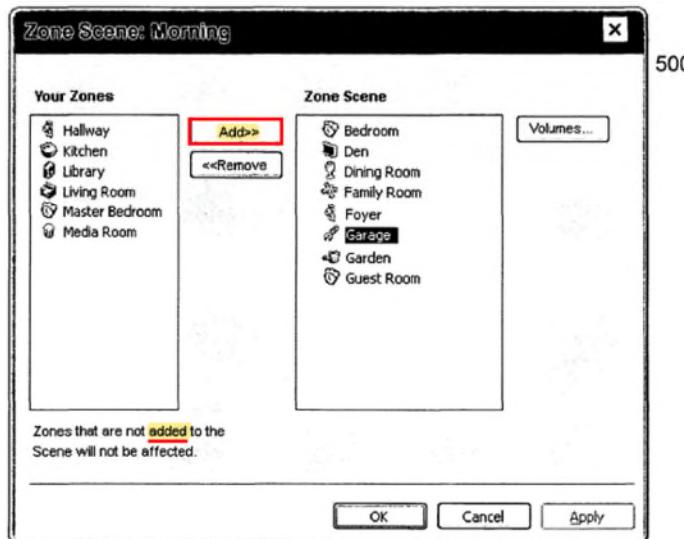
9 Google is interpreting the phrase “the first zone player **has been added** to a [given] zone scene” in
10 this clause to require that the “first zone player” **has already previously joined itself** to the “zone
11 scene,” and is then relying on this interpretation to argue that the “first zone player” is required to
12 (i) **first** “join” itself to a “zone scene” based on something other than claimed “indication” and
13 then (ii) **later** receive an “indication” from the “network device” that reminds the “first zone
14 player” it has already previously “joined” the “zone scene.” *See* D.I. 249, 7-9.

15 21. In my opinion, Google’s position that the “has been added” language refers to a
16 scenario where the “first zone player” **has already joined itself** to the “zone scene” prior to
17 receiving the “indication” is not consistent with how a POSITA would interpret that language in
18 view of the intrinsic evidence. Rather, a POSITA would understand that the phrase “the first zone
19 player **has been added** to a [given] zone scene” refers to a scenario where a “zone player” has been
20 added to a “zone scene” **at the claimed “network device”** based on user input prior to receiving
21 the “indication” from the “network device,” but has not yet associated itself with the “zone scene”
22 (or “joined” the “zone scene” in Google’s terms).

23 22. As an initial matter, the plain language of the “indication” limitations does not say
24 anything about whether the “first zone player” **has already “joined” itself** to a “zone scene” before
25 a claimed “indication” is received. Instead, the plain language of claim 1 requires the claimed
26 “first zone player” to receive, from a “network device,” an “indication that the first zone player
27 has been added to a [given] zone scene.” In my opinion, a POSITA would logically interpret the
28 claim’s use of the past-tense phrase “has been added” when describing the “indication” that is

1 received “from *a network device*” to mean that the claim is referring to some “add[]” action that
2 previously took place *at the “network device”* prior to the “indication” being sent – namely, the
3 action of adding a zone player to a zone scene at the “network device” based on user input – and
4 not some prior “join” action that would have been taken by the “zone player.”

5 23. Moreover, when discussing “zone scenes,” the ’885 Patent only uses the terms
6 “add” and “added” in the context of the *user interface* for creating a zone scene and the actions
7 that are carried out *at the controller device* (i.e., the claimed “network device”) in order to create
8 the zone scene prior to it being saved. For instance, Figure 5A shows an exemplary user interface
9 that enables a user to create and save a zone scene, which I have reproduced below along with
10 yellow highlighting to show how the terms “add” and “added” are used in this context:



11
12 '885 Patent at Fig. 5A; *see also id.* at 5:19-20 (“[A] new zone group is formed by *adding* one zone
13 player to another zone player”), 8:11-14 (“The user may start grouping zone players into a
14 zone group by activating a ‘Link Zones’ or ‘Add Zone’ soft button”);’407 Provisional at App’x
15 A, 10-11, 14 (showing other examples of user interfaces for creating “zone scenes” that include
16 “Add” buttons). The ’885 Patent also makes clear that the *controller device’s* action of *adding*
17 zone players to a zone scene (specifically, a “Morning” zone scene in this example) based on user
18 input via the above “Add” button precedes and is distinct from the *zone player’s* action of
19 *associating itself with (i.e., joining)* the zone scene, which cannot take place until after the zone
20 player has been “added” to the zone scene at the controller device via the user interface.

1 24. Relatedly, the '885 Patent never once uses the term “add” or “added” to refer to the
2 zone player’s action of associating itself with a zone scene that has been created by a user.

3 25. Thus, in the context of the intrinsic evidence, a POSITA would understand each of
4 limitations 1.6-1.7 to be referred to an “indication” that the “zone player” has been “**added**” to a
5 “zone scene” **at the “network device”** based on user input – not an “indication” that the “zone
6 player” has already previously “joined” itself to the “zone scene.”

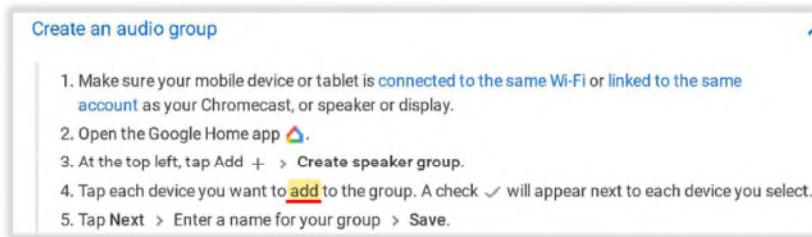
7 26. The evidence I have reviewed establishes that, under this proper reading, a
8 join_group message received by an Accused Google Player for a new speaker group comprises an
9 “indication” that the Accused Google Player “has been added” to the speaker group at the “network
10 device” based on user input. For instance, as I highlighted in my opening declaration, Google
11 itself has described the process for creating a speaker group as follows:

12 In the Google Home app, **a user may select a specific device and add it to a group**
13 in [the Google] Home app, which **causes the Google Home app to send a**
14 **join_group command** to that device.

15 Google’s Third Suppl. Resp. to Sonos’s Interrog. No. 13 at 9 (also confirming that a join_group
16 message includes a “unique ID [(“UUID”)] identifying the group” and a “group name”).

17 27. Further, the Google software engineer that led the development of Google’s speaker
18 group technology has similarly testified that **“the user selects a specific device and adds it to a**
19 **group** in [the] Home app, and that **causes the Home [app] to send a join group command** to that
device.” 10/1/2020 K. MacKay Dep. Tr. from ITC Inv. No. 337-TA-1191, at 112:2-5.

20 28. Further yet, Google’s “Create and manage speaker groups” webpage describes the
21 steps for creating a new speaker group using the Google Home app as follows:



26 GOOG-SONOSWDTX-00007068-74 at 68 (highlighting added).

27 29. This evidence confirms that an Accused Google Player is first **added** to a speaker
28 group **at a network device** running the Google Home app based on user input, and that action of

1 *adding* the Accused Google Player to the speaker group then *causes* the network device to send
2 the Accused Google Player a join_group message containing a UUID and name of the speaker
3 group created by the user at the network device. Thus, this join_group message amounts to the
4 claimed “indication” that the Accused Google Player “has been added” to the speaker group.

5 **C. The Claims Do Not Require the Received “Indications” to Include Identifiers**
of the “Zone Players” in the “Zone Scenes”

6 30. Google also disputes that its join_group messages amount to the claimed
7 “indications” based on the additional theory that (i) the claim requires the claimed “indications”
8 to include identifiers for the “zone players” that have been added to the “zone scene” and (ii) a
9 join_group message for a new speaker group does not include identifiers for the Accused Google
10 Players that have been added to the new speaker group. *See* D.I. 249, 9-11. I disagree. In my
11 opinion, this non-infringement theory is based on an erroneous interpretation of the plain language
12 of limitations 1.6-1.7 that is contrary to how a POSITA would understand that language.

13 31. The particular claim language at issue is:

14 a [given] indication that the first zone player has been added to a [given] zone scene
15 comprising a [given] predefined grouping of zone players including at least the first zone
16 player and a [given other] zone player that are to be configured for synchronous playback
of media when the [given] zone scene is invoked;

17 According to Google, the phrase “comprising a [given] predefined grouping of zone players
18 including at least the first zone player and a [given other] zone player . . .” modifies the term
19 “indication” such that it requires the “indication” itself to “comprise ‘at least the first zone player
20 and a [given other] zone player’ – which Google then interprets to mean that the “indication” must
21 include identifiers of the “zone players” that have been added to the “zone scene.” *Id.*

22 32. In my opinion, Google’s reading is not consistent with how a POSITA would
23 interpret this clause. Rather, a POSITA would understand that the phrase “comprising [a]
24 predefined grouping of zone players including at least the first zone player and [another] zone
25 player . . .” modifies the term “zone scene” that immediately precedes it, not the term “indication”
26 that appears earlier in the clause. As such, a POSITA would understand that the “comprising”
27 phrase serves to define what the claimed “zone scene” is required to include, and not what the
28 claimed “indication” is required to indicate. In particular, a POSITA would interpret the plain

1 language of this clause to require an “indication that the first zone player has been added to [a
2 given] zone scene,” where that “zone scene” comprises “[a] predefined grouping of zone players
3 including at least the first zone player and [another] zone player . . . [.]”

4 33. Thus, under a proper reading of the “indication” limitations, there is no requirement
5 that the claimed “indications” must include identifiers of the “zone players” that have been added
6 to the “zone scene.” Instead, the “indication” limitations of the claim are satisfied as long as the
7 “first zone player” is programmed with the capability to receive “indications” that the “first zone
8 player” has been added to particular “zone scenes.” And here, there is no dispute that each accused
9 “join_group” message comprising a group “UUID” and “name” does indicate that an Accused
10 Google Player has been added to a particular speaker group. For these reasons, the join_group
11 messages amount to the claimed “indications.”

12 **III. '885 PATENT CLAIM 1 HAS WRITTEN DESCRIPTION SUPPORT**

13 34. In its opposition, Google contends that the '885 Patent does not contain written
14 description support for claim 1 and thus fails to comply with 35 U.S.C. § 112. I disagree.

15 **A. Legal Standard**

16 35. I understand that a patent must include a written description that reasonably
17 conveys to a POSITA that the inventor had possession of the claimed subject matter.

18 36. I also understand that (i) a patent's disclosure is not required to use the exact same
19 terms as those used in the claims, and (ii) a patent's disclosure is not required to expressly describe
20 every claim limitation, as long as every claim limitation is necessarily present in the disclosure.

21 **B. Overview of Disclosed Subject Matter**

22 37. As explained in the “Background” of the '885 Patent, there were various limitations
23 and problems with “conventional multi-zone audio system[s]” comprising traditional audio players
24 that were connected by speaker wire to a “centralized” A/V receiver, including difficulties in
25 grouping different audio players together at different times. *See* '885 Patent at 1:46-2:16.

26 38. To address the various limitations of “conventional multi-zone audio system[s],”
27 the '885 Patent begins by describing a new type of ***networked*** multi-zone audio system comprised
28 of data network devices that are configured to process and output audio, referred to as “zone

1 players.” ’885 Patent at FIG. 1, 4:49-6:27. Unlike the audio players in “conventional multi-zone
2 audio system[s],” these “zone players” have processors and memory, and are capable of
3 communicating with other data network devices, such as “controlling devices,” “audio sources,”
4 and other “zone players,” over a data network. *Id.* This networked multi-zone audio system
5 provided a new paradigm that advanced over “conventional multi-zone audio system[s].”

6 39. The ’885 Patent discloses that each of the “zone players” is capable of playing back
7 audio individually (*i.e.*, on its own). *See, e.g.*, ’885 Patent at 4:44-5:2, 5:21-6:27, 6:39-43. The
8 ’885 Patent also discloses that each of the “zone players” is capable of being grouped together
9 with one or more other “zone players” so that the grouped “zone players” become configured for
10 synchronous playback. *Id.* at 5:16-20, 5:57-6:7, 6:43-48, 7:35-41, 7:58-9:30, 10:4-11:20. In this
11 respect, each “zone player” will be operating in one of two states at any given time: (i) a first state
12 in which the “zone player” is not actively grouped with any other “zone player” but rather is
13 configured to play back audio individually (*i.e.*, a non-grouped or standalone mode), whether or
14 not the “zone player” is engaging in active playback, or (ii) a second state in which the “zone
15 player” is actively grouped with one or more other “zone players” such that it is configured for
16 synchronous playback as part of that group (*i.e.*, a grouped mode), whether or not the group is
17 engaging in active playback. *Id.*

18 40. The ’885 Patent explains that one process for grouping “zone players” together for
19 synchronous playback involves a user selecting the particular “zone players” to include in the
20 group in an ad-hoc manner, one-by-one, when the user wishes to activate the group for
21 synchronous playback. *Id.* at 8:30-45. However, the ’885 Patent notes that this process “may
22 sometimes be quite time consuming,” because each time the user wishes to activate a different
23 group for synchronous playback, the user has to repeat the ad-hoc process of selecting each of the
24 “zone players” to include in the group even if it is a grouping of “zone players” that has previously
25 been formed and activated by the user on many other occasions in the past. *Id.*

26 41. In view of these drawbacks with ad-hoc grouping, the ’885 Patent describes a new
27 process for grouping “zone players” together for synchronous playback using a “zone scene,”
28 which comprises a “predefined” group of “zone players” that is first pre-configured by a user and

1 is then made available for future use so that a user can later activate the group for synchronous
2 playback. *Id.* at 8:45-9:30, 10:4-11:20, FIGs. 5A-B, 6; *see also* '407 Provisional at App'x A. This
3 new grouping process enables a user to activate a group of "zone players" for synchronous
4 playback in a more seamless manner, because instead of having to select each "zone player" to
5 include in the group in a "time consuming" ad-hoc manner, the user can simply select a saved
6 "zone scene" comprising a predefined version of the group.

7 42. As disclosed, grouping "zone players" using a "zone scene" involves two phases.
8 During a first "setup" phase, the particular "zone players" to be included in the predefined group
9 are added to the "zone scene" at a controller device and the "zone scene" is saved for future use –
10 but the predefined group of "zone players" is not activated for synchronous playback at this time.
11 *See, e.g.*, '885 Patent at 8:45-51, 10:4-19, 10:36-52, 11:12-19; '407 Provisional at App'x A, 1-2,
12 9-16. Rather, the predefined group of "zone players" initially exists in an inactive state. Thereafter,
13 during a second phase, the saved "zone scene" can be "invoked" at the request of a user, which is
14 what causes the predefined group of "zone players" to become activated for synchronous playback.
15 *See, e.g.*, '885 Patent at 9:16-20, 10:53-63, 11:12-19, '407 Provisional at App'x A, 1-8.

16 43. As explained in detail below, the '885 Patent further discloses that a user can set up
17 multiple different "zones scenes" comprising multiple different predefined groups of "zone
18 players," including predefined groups with overlapping members.

19 **C. The '885 Patent Discloses "Zone Scenes" With Overlapping Members**

20 44. In its opposition, Google contends that "the specification never discloses that a zone
21 player may be added to two zone scenes at the same time," and based on this contention, Google
22 disputes that the '885 Patent has written description support for limitations 1.6-1.7, which are
23 directed to setup of two "zone scenes" comprising two different predefined groups that both
24 include the claimed "zone player." I disagree.

25 45. *First*, the '885 Patent discloses that after one "zone scene" has been set up, a user
26 may "go back . . . to configure another [zone] scene if desired," which conveys to a POSITA that
27 any number of different "zone scenes" can be set up and exist at the same time. '885 Patent at
28 FIG. 6, 10:51-52.

1 46. *Second*, the '885 Patent discloses examples where multiple different "zone scenes"
2 have been set up and are in existence at the same time. *See, e.g.*, '885 Patent at FIG. 8 (disclosing
3 "Wakeup" and "Garden Party" scenes that are in existence at the same time); *see also id.* at 8:52-
4 9:19 (disclosing four different examples of "zone scenes" for a given system).

5 47. *Third*, the '885 Patent discloses that when a user is selecting which "zone players"
6 to add during setup of each "zone scene," the user is presented with "ALL the zones in the system,
7 including the zones that are already grouped" – which conveys to a POSITA that each "zone scene"
8 being set up can include *any* grouping of "zone players" in a multi-zone audio system, regardless
9 of whether the "zone players" are included in any other "zone scenes," and thus that multiple "zone
10 scenes" with an overlapping "zone player" can be set up and exist at the same time. '885 Patent
11 at 10:12-19; *see also id.* at 10:4-6 (disclosing that when setting up a new "zone scene," a user is
12 presented with a list of "the available zones in a household"), 10:36-42 (disclosing an example
13 where a user is presented with an "interface to select" from the "players in a household").

14 48. *Fourth*, in the discussion from 8:52 to 9:19, the '885 Patent discloses four different
15 examples of "zone scenes" in a given system that have overlapping members:

- 16 • a first "zone scene" named "Morning" that comprises a predefined group of the
17 Bedroom, Den, and Dining Room "zone players";
- 18 • a second "zone scene" named "Evening" that also comprises one predefined group of
19 the Bedroom, Den, and Dining Room "zone players" (as well as another predefined
20 group of the Garage and Garden "zone players");
- 21 • a third "zone scene" comprising one predefined group of "zone players" located
22 "upstairs" and another predefined group of "zone players" located "downstairs" (at
23 least one of which would include the Bedroom, Den, and/or Dining Room players); and
- 24 • a fourth "zone scene" that comprises a predefined group of "all zones" in the multi-
25 zone audio system, including the Bedroom, Den, and Dining Room "zone players."

26 *See* '885 Patent at 8:52-9:19; *see also* '407 Provisional at 12-13 (disclosing a "Morning" "zone
27 scene" comprising a predefined grouping of the "Bedroom, Den and Dining Room" players and
28 "a simple form of a zone scene" comprising a predefined grouping of "all zones" in the system);
29 *id.* at App'x A, 2 (disclosing one "zone scene" that includes "Living Room + Kitchen + **Den**"
30 players and another "zone scene" that includes "Bedroom + **Den** + Dining Room" players).

31 49. *Fifth*, the '885 Patent discloses that "**various scenes**" may be saved in *any* of the

1 members in a group,” which further conveys that each “zone player” can be included in multiple
2 different “zone scenes” that exist at the same time. ’885 Patent at 2:56-59.

3 50. In my opinion, these disclosures clearly convey to a POSITA that the inventor of
4 the ’885 Patent was in possession of the claimed functionality for setting up multiple different
5 “zone scenes” comprising predefined groups having overlapping members, as well as a “zone
6 player” that is included in multiple different “zone scenes” existing at the same time.

7 51. I have also carefully reviewed Google’s contentions and Dr. Schonfeld’s opinions
8 on this issue, and they do not alter my opinion that the ’885 Patent discloses limitations 1.6-1.7.
9 In fact, Google and Dr. Schonfeld did not specifically address any of the disclosures I just
10 identified. Instead, Google and Dr. Schonfeld focused their challenge on the paragraph at 2:5-12
11 in the ’885 Patent’s “Background” section, which explains that “conventional multi-zone audio
12 systems” did not allow for multiple groups of audio players having overlapping members to exist
13 at the same time (among many other deficiencies). According to Google, this paragraph “teaches
14 away” from the claimed invention of having multiple “zone scenes” with overlapping players (D.I.
15 249, 21), but I fail to see how that is the case.³ In my view, the purpose of this paragraph is to
16 highlight a specific problem with “conventional multi-zone audio systems” that the invention of
17 the ’885 Patent intended to solve, and the ’885 Patent then goes on to disclose technology that
18 solves this problem by allowing multiple “zone scenes” having overlapping members to be set up
19 and exist at the same time. Accordingly, applying Sonos’s disclosed technology to the scenario
20 discussed at 2:5-12, a user could first set up three different “zone scenes” for the morning, evening,
21 and weekend, each having an overlapping “zone player” in the “den,” and then be able to later
22 select any one of these “zone scenes” in order to activate a given group for playback.

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25 ³ While it is not clear, it appears that Google’s “teaching away” statement may be premised on a
26 theory that two “zone scenes” cannot “exist[] at the same time” (D.I. 249 at 21) unless the “zone
27 scenes” are both “invoked” and being “used at the same time” (D.I. 249-1 at ¶47). If so, I
28 disagree with such an interpretation, which is not consistent with the specification or required by
the claims. Rather, what the claims require is for two different “zone scenes” to both be *set up* at
the same time – at which point the “zone scenes” will both “exist[] at the same time” – but only
one of these two “zone scenes” needs to be “invoked” at any given time.

1 D. The '885 Patent Discloses the Claimed Sequence of “Zone Player” Operation

2 52. In its opposition, Google also disputes that the '885 Patent has written description
3 support for the claimed functionality of [1.8] “continuing to operate in the standalone mode [after
4 setup of the first and second zone scenes] until a given one of the first and second zone scenes has
5 been selected for invocation” and [1.10] “transitioning from operating in the standalone mode to
6 operating in accordance with the given one of the first and second predefined groupings of zone
7 players . . . [after it has been selected for invocation].” I disagree.

8 53. *First*, a POSITA would understand that the claimed “standalone mode in which the
9 first zone player is configured to play back media individually” refers to a “zone player” operating
10 in a non-grouped state in which it is configured to play back audio on its own rather than as part
11 of a group, and as explained, the '885 Patent clearly discloses that the “zone players” are capable
12 of operating in such a “standalone mode.” *See, e.g.*, '885 Patent at 4:44-5:2, 5:21-6:27, 6:39-43.⁴

13 54. *Second*, as I explained in the prior sub-section, the '885 Patent does disclose that a
14 “zone player” can be added to multiple different “zone scenes.”

15 55. *Third*, as I explained above, the '885 Patent discloses that a “zone scene” is a group
16 of “zone players” that is “predefined” and “saved” for future use during a “setup” phase, but is not
17 activated for synchronous playback at the time. *See, e.g.*, '885 Patent at 8:45-51, 10:4-19, 10:36-
18 52; 11:12-19; '407 Provisional at App'x A, 1-2, 9-16. Rather, the predefined group of “zone
19 players” initially exists in an inactive state, which is what distinguishes a “zone scene” from an
20 ad-hoc group that is automatically activated at the time it is formed rather than being predefined
21 and saved for future use. *Id.* In this respect, the '885 Patent discloses that, unlike for an ad-hoc
22 group, the act of adding “zone players” to a “zone scene” does not cause those “zone players” to
23 become linked together for synchronous playback at that time. This conveys to a POSITA that a
24 “zone player” operating in a “standalone mode” prior to being added to each new “zone scene”

25
26

27 ⁴ While it is not clear, Google appears to be interpreting this “standalone mode” limitation to
28 require that the “first zone player” be engaged in *active* playback. If so, I disagree with Google’s
interpretation – a POSITA would understand this limitation to require the “zone player” to be
operating in a mode for individual playback (as opposed to grouped playback), which could be
satisfied regardless of whether or not the “zone player” is actually engaging in active playback.

1 will continue to operate in that “standalone mode” after being added to each new “zone scene.”

2 56. *Fourth*, as I explained above, the '885 Patent discloses that the subsequent act of
3 “invoking” a “zone scene” is what activates the predefined group for synchronous playback by
4 causing the “zone players” in the invoked “zone scene” to become configured to output audio in
5 synchrony with one another. *See, e.g.*, '885 Patent at 9:16-20, 10:53-63.

6 57. In my opinion, these disclosures clearly convey to a POSITA that the inventor of
7 the '885 Patent was in possession of the claimed functionality of [1.8] “continuing to operate in
8 the standalone mode [after setup of the first and second zone scenes] until a given one of the first
9 and second zone scenes has been selected for invocation” and [1.10] “transitioning from operating
10 in the standalone mode to operating in accordance with the given one of the first and second
11 predefined groupings of zone players . . . [after it has been selected for invocation].”

12 58. I have also carefully reviewed Google’s contentions and Dr. Schonfeld’s opinions
13 on this issue, and they do not alter my opinion that the '885 Patent discloses this claimed
14 functionality. In fact, Google and Dr. Schonfeld again failed to specifically address most of the
15 disclosures that I identified above, and instead focused on other disclosures from the '885 Patent
16 that have only tangential relevance to the claimed functionality that Google is challenging.

17 59. For instance, while challenging the '885 Patent’s disclosure of a “zone player”
18 “continuing to operate in the standalone mode” after it “has been added” to first and second “zone
19 scenes,” which relates to the initial “setup” phase for these “zone scenes,” Google ignores the
20 foregoing disclosure regarding what a “zone scene” is and how it is set up, and instead attacks
21 disclosure from the '885 Patent and the '407 Provisional that discusses what happens when a
22 previously-set-up “zone scene” is subsequently “activat[ed].” D.I. 249, 22-23 (citing to '885
23 Patent at 10:56-58, '407 Provisional at App’x A, 4). In this respect, Google appears to be
24 conflating the function of *setting up* a “zone scene” – which is when a “zone player” is “added”
25 to the “zone scene” – with the subsequent function of *activating* the “zone scene.” Thus, while
26 the disclosure discussed by Google does provide written description support for limitation 1.10,
27 which recites the functionality of the “first zone player” when a “zone scene” is “*invoked*,” I fail
28 to see the relevance of Google’s arguments regarding this disclosure as it relates to limitation 1.8,

1 which recites the functionality of the “first zone player” after being added to “zone scenes” that
2 have been set up but have not yet been “invoked.”⁵

3 60. The relevant disclosure for claim limitation 1.8 is the disclosure I have summarized
4 above regarding what a “zone scene” is and how it is set up prior to being invoked.

5 **IV. '885 PATENT CLAIM 1 IS DIRECTED TO PATENTABLE SUBJECT MATTER**

6 61. In its opposition, Google contends that claim 1 of the '885 Patent is directed to “an
7 abstract idea” that is not patent eligible under 35 U.S.C. § 101. I disagree.

8 62. I understand that if a claim is directed to a specific improvement over existing
9 technology, that claim is not merely directed to an unpatentable “abstract idea.” In my opinion,
10 that is the exactly the case here with respect to claim 1 of the '885 Patent, which provides several
11 specific, technical improvements over the existing “multi-zone audio system[s]” discussed in the
12 '885 Patent. *See* '885 Patent at 1:35-2:24, 8:30-11:20.

13 63. *First*, claim 1 recites a “zone player” in a “networked media playback system”
14 comprised of at least two other “zone players” and a “network device,” where the “zone player”
15 includes “one or more processors,” “a non-transitory computer-readable medium” encoded with
16 executable “program instructions,” and a “network interface” that enables communication with the
17 other claimed data network devices over “at least one data network.” This is a specific type of
18 audio player that improves upon “conventional multi-zone audio system[s]” comprised of “audio
19 players” that were connected by speaker wire to a centralized A/V receiver and did not have the
20 capability to communicate over a data network or process digital data, which made such systems
21 “inflexible,” “difficult” to use, and “not [] suitable” for many users. *See* '885 Patent at 1:46-2:16.

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23
24 ⁵ Contrary to Google’s assertion, once the proper distinction is made between setting up a “zone
25 scene” and subsequently activating the “zone scene,” it is clear that claim 1 covers the third
26 example in the '407 Provisional section titled “What happens to the Music that’s already playing
27 when a Zone Scene is started.” *See* Provisional, App’x A, 4. For instance, claim 1 covers (but is
28 not limited to) a scenario where the “first zone player” is playing music in “standalone mode” at
the time that the “first” or “second” “zone scene” is “invoked,” such that after invocation, the
“first zone player” and the other “zone player” in the invoked “zone scene” begin playing the
music that was already playing on the “first zone player” in synchrony. *See* limitation 1.10.

1 64. *Second*, claim 1 recites that the claimed networked “zone player” is programmed
2 with a specific set of functionality that enables the “zone player” to receive an indication that it
3 “has been added” to multiple different “zone scenes” while continuing to operate in a “standalone
4 mode” for audio playback, and then when later instructed, to operate in accordance with one of the
5 “zone scenes” by coordinating with at least one other “zone player” in the “zone scene” in order
6 to “output media in synchrony with output of media by the at least one other zone player.” As
7 explained by the ‘885 Patent, this “zone scene” technology additional provides improvements over
8 “conventional multi-zone audio system[s],” which were “hard-wired,” “pre-configured,” and “pre-
9 programmed” in a way that made it “inconvenient” (if not impossible) to group traditional “audio
10 players” for playback, and *also* provides improvements over the existing technology for grouping
11 “zone players” within a ***networked*** multi-zone audio system, which required group members to be
12 selected in a “time consuming” ad-hoc manner each time a group was to be activated for
13 synchronous playback. *See* ’885 Patent at 1:63-24, 8:30-45.

14 65. Based on the foregoing, I disagree with Google’s contention that claim 1 is merely
15 directed to “automation of a manual process” or attempts to capture “subjective mental processes.”
16 To the contrary, claim 1 is exclusive to the realm of technology – namely, multi-zone audio
17 systems and technologies for grouping audio players within such systems.

18 66. Moreover, based on the foregoing, I disagree that the subject matter of claim 1 was
19 well-understood, routine, or conventional at the time the ’885 Patent was filed.

20
21 I declare under penalty of perjury under the laws of the United States that the foregoing is
22 true and correct.

23 Dated: May 19, 2022
24


Kevin C. Almeroth